



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,593	10/10/2003	Govind Rangaswamy Kadambi	38105.0151	2592
26582	7590	05/31/2006		
HOLLAND & HART, LLP P.O BOX 8749 DENVER, CO 80201			EXAMINER CAO, HUEDUNG X	
			ART UNIT 2821	PAPER NUMBER

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/605,593

Applicant(s)

KADAMBI ET AL.

Examiner

Huedung X. Cao

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 6-22, 24, 26-27, 29-32 is/are pending in the application.
- 4a) Of the above claim(s) 32-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 21, 22, 24, 26, 25, 26, 26, 26, 27 and 29-32 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6-9, 15 and 20 is/are rejected.
- 7) ☒ Claim(s) 10-14 and 16-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/06, 03/06
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This is a reply to the Applicants' response to the Restriction Requirement 1-32 is elected.

For convenience in review and for clarity of the record of the file, part of the Restriction Requirement is being provided herewith:

#### ***Election/Restrictions***

2. This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. Claims 1-32, drawn to an antenna which includes one slot having side walls; one extension of radiating element.
- II. Claims 33-42, drawn to a planar antenna which includes two slots having side walls; and two extensions of radiating element.

3. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim

Art Unit: 2821

is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

***Response to Applicants' Election with traverse***

4. Applicant's election with traverse of Invention Group I including claims 1-32, in the reply filed on 03/10/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

This application contains claims 32-40 are drawn to an invention nonelected with traverse in Paper No. 05/25/2005. A complete reply to the final rejection must include

Art Unit: 2821

cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-2, 4, 6-9, 15, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Isohatala et al. (US 6,366,243).

Regarding claim 1, Isohatala teaches an antenna comprising:

a ground plane ( figure 6, plane 606);

Art Unit: 2821

a radiating element spaced above said ground plane (plane 600);

a slot having side walls formed in said radiating element, the slot having an open end located on said edge and having a closed end located within said radiating element (the "big" slot containing three edges 601-603);

a shorting post connecting said radiating element to said ground planes (shorting post 605); and

an extension of said radiating element where at least one part of the extension resides in the same plane as said radiating element and out of physical contact with said side walls, said extension having a first end connected to said radiating element and located generally adjacent to said open end of said slot and having a second end located generally adjacent to said closed end of said slot (Isohatala, "big" extension residing inside the "big" slot defined by the edges 601-603).

Claim 2 adds into claim 1 "a portion of said extension is located in a space between said radiating element and said ground plane" (the portion located near the ground post 605).

Claim 4 adds into claim 1 "said second end of said extension is located in a space between said radiating element and said ground plane" (the second end of the "big" extension is near the edge 602).

Claim 6 adds into claim 1 "said edge is a non-radiating edge of said radiating element" (the non-radiating edge near the ground post 605).

Claim 7 adds into claim 6 "said shorting post is located generally on said non-radiating edge of said radiating element" (the non-radiating edge near the ground post

Art Unit: 2821

605).

Claim 8 adds into claim 7 a feed post on a non-radiating edge (the non-radiating edge near the feed post 606).

Claim 9 adds into claim 1 "said edge is a radiating edge of said radiating element and including a feed post on said radiating edge" (figure 8a, the feed post 801 is located on the radiating element).

Claim 15 adds into claim 1 "said edge is a non-radiating edge of said radiating element, including: a radiating edge on said radiating element; a feed post on said radiating edge; the shorting post on said non-radiating edge connecting said radiating element to said ground plane; said slot having the open end located on said non-radiating edge and the closed end located within said radiating element; said extension having the first end connected to said radiating element generally at said open end of said slot; and said extension having the second end located generally adjacent to said closed end of said slot ( "big" extension residing inside the "big" slot defined by the edges 601-603).

Claim 20 adds into claim 1 "said antenna is a planar antenna selected from the group microstrip antenna and planar inverted-F antenna" (a Planar Inverted-F Antenna PIFA structure; column 5, line 2).

***Allowable Subject Matter***

6.7. Claims 10-14, 16-17, and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 10-14, the Prior art fails to teach that the edge is a generally linear edge, wherein said slot is a generally L-shaped slot having a first portion that extends generally perpendicular to said linear edge and a second portion that extends generally parallel to said linear edge, wherein said extension includes a first portion that extends through said first portion of said slot, and wherein said extension includes a second portion that extends through said second portion of said slot.

Regarding claims 16-17, the Prior art fails to teach that slot includes a generally linear portion that extends generally perpendicular to said non-radiating edge, and wherein said extension follows a meandering path as it extends through said linear portion of said slot.

Regarding claims 18-19, the Prior art fails to teach that said extension having a second portion having a first end connected to said radiating element adjacent to said second end of said first portion, said second portion having a second end located generally adjacent to said closed end of said slot.



Art Unit: 2821

§ Claims 21-22, 24, 26-32 are allowed

The following is an examiner's statement of reasons for allowance:

Regarding claims 21-22, 24, 26-32, the Prior art fails to teach that "wherein said metal element meanders generally along the length of said slot so as to have an effective length dimension that is longer than said length dimension of said slot."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Inquiries***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRINH DINH  
PRIMARY EXAMINER

Huedung Cao  
Patent Examiner

